

REMARKS

Claims 1-15, 17-42, 44-70, 72-99 and 101-120 are pending. Claims 1-16, 36-38 and 72-86 have been allowed. Claims 21-22, 40, 42, 48, 49, 67, 69, 91-92, 97 and 99 have been indicated allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Claim 71 has been withdrawn. Claims 16, 43 and 100 have been cancelled to overcome the provisional obviousness non-statutory double patenting rejection as discussed below. The remaining claims 17-20, 23-35, 39, 41, 44-47, 50-66, 68, 70, 87-90, 94-96, 98 and 101-120 are at issue.

The rejection of claims 17-18, 23-35, 39, 41, 43-45, 50-66, 68, 70, 87-89, 93-96, 98, 100-109, 112-114, 117-118 and 120 as obvious under 35 U.S.C. §103(a) over Chatigny et al. 5,673,041 and Selig et al. 6,492,978 is respectfully traversed.

Claims 17-18, 23-35, 39, 41 and 43 specify “a substrate with a raised surface defining an acoustic wave cavity such that a thickness of the cavity is greater than a thickness of the substrate in an area adjacent the cavity” wherein “an acoustic wave in the substrate...is substantially trapped in the acoustic wave cavity....” Neither Chatigny or Selig alone or in combination teach the claimed substrate with a raised surface defining an acoustic wave cavity wherein an acoustic wave in the substrate is substantially trapped in the acoustic wave cavity. Although Chatigny shows a substrate in which an acoustic wave propagates, there is no teaching in Chatigny et al. of an acoustic wave cavity being formed in the substrate or of an acoustic wave that is substantially trapped in an acoustic wave cavity or of a raised surface defining an acoustic wave cavity as required by the claims. Selig does not overcome the deficiencies of Chatigny. There is no teaching in Selig et al. of an acoustic wave cavity being formed in the substrate or of an acoustic wave that is substantially trapped in an acoustic wave cavity or of a raised surface defining an acoustic wave cavity as

required by the claims. Specifically, Selig does not disclose or suggest that its keys can be affixed to a substrate to define an acoustic wave cavity wherein an acoustic wave is substantially trapped in the acoustic wave cavity. Because neither Chatigny or Selig alone or in combination teaches all of the elements recited in the claims, these references do not make a prima facie case of obviousness. As such, claims 17-18, 23-35, 39, 41 and 43 are believed to be allowable under 35 U.S.C. §103 over the cited references.

Each of claims 44, 45, 50-66, 68, 70, 87-89, 93-96, 98 and 100-110 requires “a mesa formed on the substrate, said mesa defining an acoustic wave cavity formed of the mesa and the portion of the substrate below the mesa.” Neither Chatigny nor Selig alone or in combination teaches a mesa formed on a substrate wherein the mesa defines an acoustic wave cavity formed of the mesa and the portion of the substrate below the mesa as required by the claims. Chatigny does not disclose a mesa defining an acoustic wave cavity or that an acoustic wave cavity is formed of the mesa and the portion of the substrate below the mesa. A key as disclosed in Selig is not the claimed mesa because the key does not define an acoustic wave cavity that is formed of the key and the portion of the substrate below the key. Because Chatigny and Selig do not teach all of the elements recited in claims 44, 45, 50-66, 68, 70, 87-89, 93-96, 98 and 100-110, these claims are believed to be allowable under 35 U.S.C. §103 over Chatigny and Selig.

Each of claims 112-114, 117 and 118 specify a mesa formed on or in the substrate defining an acoustic wave cavity. As discussed above, Chatigny does not teach a mesa formed on or in the substrate defining an acoustic wave cavity. Selig does not overcome the deficiencies of Selig. Specifically, there is no teaching in Selig that its keys define an acoustic wave cavity in the substrate because they do not. As such, these references cannot make obvious the invention of claims 112-

114, or 117-118 under 35 U.S.C. §103. As such, these claims are believed to be allowable over the cited art.

The rejection of claims 19-20, 46-47, 90, 110, 111, 115-116 and 119 as obvious under 35 U.S. C. §103(a) in view of Chatigny, Selig and Kent 5,986,224 is respectfully traversed. Each of claims 19-20 requires a raised surface defining an acoustic wave cavity wherein the acoustic wave is substantially trapped in the cavity. As discussed above, neither Chatigny nor Selig teaches a raised surface defining an acoustic wave cavity or an acoustic wave that is substantially trapped in the cavity. Kent does not overcome the deficiencies of either Chatigny or Selig since Kent does not teach a raised surface defining an acoustic wave cavity or an acoustic wave that is substantially trapped in such a cavity as required by the claims. As such, claims 19-20 are believed to be allowable over the cited references under 35 U.S.C. §103.

Claims 46-47, 90, 110 and 115-116 and 119 require a mesa that defines an acoustic wave cavity. As discussed above, neither Chatigny nor Selig et al. discloses a mesa or a mesa defining an acoustic wave cavity. Kent does not overcome the deficiencies of Chatigny and Selig. In particular, Kent does not disclose a mesa nor does Kent disclose a mesa that defines an acoustic wave cavity. As such, claims 46-47, 90, 110, 115-116 and 119 are believed to be allowable over the cited references under 35 U.S.C. §103.

Claim 111 requires “a mesa formed on the substrate” and “a shear wave transducer mounted on the mesa or a surface of the substrate opposite the mesa....” Chatigny, Selig and Kent alone or in combination do not teach a mesa formed on the substrate or a shear wave transducer that is mounted on the mesa or a surface of the substrate opposite the mesa as required by claim 111. As such, claim 111 is believed to be allowable over the cited references under 35 U.S.C. §103.

The provisional, non-statutory obviousness type double patenting rejection of claims 17-20, 23-35, 38-39, 44-47, 50-66, 74-76, 79-84, 87-90, 93-96, 101-120 in view of the copending application 09/998,228 is respectfully traversed. Claims 16, 43 and 100 have been cancelled to overcome the provisional, non-statutory, obviousness type double patenting rejection. Specifically, claims 17-20, 23-35, 38-39, 44-47, 50-66, 74-76, 79-84, 87-90, 93-96, 101-120 of the present application and claims 1-20 of the copending application are patentably distinct. For example, the feedback mechanism or member recited in claims 1-20 of the copending application is not recited in or suggested by the rejected claims of the present application. The claims are therefore nonobvious and patentably distinct. Because, the rejected, pending claims of the present application and the claims of the copending application are patentably distinct, the provisional, non-statutory, obviousness type double patent rejection is believed to be improper and withdrawal of the rejection is respectfully requested.

Pending claims 1-15, 36-38 and 72-86 have been allowed. Pending claims 21-22, 40, 42, 48, 49, 67, 69, 91-92, 97 and 99 have been indicated allowable. The remaining pending claims 17-20, 23-35, 39, 41, 44-47, 50-66, 68, 70, 87-90, 94-96, 98, and 101-120 are believed to be allowable as discussed above. Reconsideration and allowance of the rejected claims are respectfully requested.

Respectfully submitted,

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By: Jean Dudek Kuelper
Jean Dudek Kuelper
Reg. No. 30,171

McAndrews, Held & Malloy, Ltd.
500 West Madison Street, 34th Floor
Chicago, Illinois 60661
(312) 775-8000